Sunnyvale Voices: From Settlers to Silicon

A Digital Storytelling Project of the Sunnyvale Public Library

Funded by the Library Services and Technology Act
Administered by the California State Library

Project Design Manual

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INTRODUCTION

Like many California communities which grew rapidly, modernized and left rural agricultural life behind, the city of Sunnyvale has recognized recently that much of its local history and identity is in danger of being lost forever. As we are now at the beginning of the 21st century, the number of longtime residents who have recollections from the early 1900s continues to diminish in size. Some residents have also moved elsewhere and thus are no longer available to share their memories of living and working in Sunnyvale.

On May 23, 1999, the Sunnyvale library held a celebration in honor of its 85th birthday. Mayor Manuel Valerio, local historian Ann Hines, and residents gathered to share their stories of growing up in Sunnyvale and the Santa Clara Valley. Many of the attendees expressed an interest in having these stories and other Sunnyvale tales preserved in some way so that they could be accessed by all members of the community.

While the Sunnyvale library maintains a solid local history collection of books, newspaper clippings, photographs, and videotapes, we noted that oral histories in any form were noticeably absent. Therefore, after identifying a need to capture the stories of Sunnyvale before this was no longer possible, receiving community interest in such a project, and evaluating our local history collection, we decided to actively collect the oral histories of local residents and to make them available in a variety of formats.

What follows is the manual for the project that was undertaken by the Sunnyvale Public Library. It is divided into a project design guide and a technical guide. The purpose of the manual is to help others who desire to preserve oral histories using new technologies. It may be used as a guide to assist others in setting up a similar project and allow you to benefit from the Sunnyvale Public Library's experiences.

PART ONE: PROJECT DESIGN GUIDE

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Project Description

A local digital storytelling organization called the Digital Clubhouse (http://www.digiclub.com/) provided the model for our project. The Clubhouse "has created a program that guides people through multimedia software tools using their own life stories and imagery as their source of content." Several library staff members participated in a Digital Clubhouse project designed to create digital stories about their experiences as breast cancer survivors.

After consulting with the Digital Clubhouse, a method for recording and preserving stories in a multimedia format was determined. This method involved two main processes: storytelling and technical production. Part of the preparation involved in this project included researching other projects which could be useful to us. Some helpful tips were found with the Library of Congress American Memory project (http://memory.loc.gov/ammem/ftpfiles.html), the Center for Digital Storytelling (http://www.storycenter.org/), Peter Farquar's Digital Imaging of Family History (http://www.tombomedia.com/), and the Shades of LA project. For assistance with the storytelling aspects of the project, we consulted the University of California at Berkeley's Regional Oral History Office (http://www.lib.berkeley.edu/BANC/ROHO/).

A proposal was drafted and sent to the California State Library for review. In September 1999, we were notified that our grant application had been selected to receive money from Library Services and Technology Act funds. Work began on the digital storytelling project, soon to be known as Sunnyvale Voices: From Settlers to Silicon in October 1999.

Project Goals and Objectives

The goal of the Sunnyvale Voices project is to provide access to the oral histories of local residents in multimedia formats. In order to reach this goal, the following three measurable objectives were created:

a) Thirty people will be trained in the digital and storytelling techniques necessary to create a digital history.

b) Twenty stories will be recorded in the first year of the project.

c) Completed stories will be made available through video, CD-ROM, and the World Wide Web.

Timeline

The project, as by a Library Services and Technology (LSTA) grant, funded began in October 1999 and ended in September 2000.

What follows below is an outline of project actions in time sequence. For more detailed explanations, please refer to subsequent sections of the manual.

October - December 1999

One of the first steps to be taken was the formation of the project advisory board. After receiving the input and advice from community members, we recruited and hired one grant assistant, and three technical assistants, ordered equipment, and developed the standards and processes for the project.

January 2000 - March 2000

At this stage, we established a project office and set up the computer equipment. A list of potential storytellers was created through networking with the community. Interested participants were invited to a group orientation meeting. An oral history consultant trained the group in oral history techniques and helped with the preparation of a storytelling binder (See Appendix) for those who could not attend the meeting.

April 2000 - June 2000

The first few storytellers began to work on writing their scripts. Seeing the need for historical photographs to help tell the stories, we visited local historical organizations and began to keep our own image database. Due to technical difficulties, it soon became apparent that it would be wise to focus on one storyteller and test our processes before we continued. This testing phase resulted in the hiring of a video production consultant and a streaming media consultant. Based on their recommendations, new equipment was ordered and installed.

July 2000 - September 2000

We began to work with more storytellers. A domain name was purchased and server space was rented to host the project web site. Five stories are completed, and six more are nearly complete by the project end. The completed stories were made available on videocassette to patrons within the library as well as through interlibrary loan and on the web site at http://sunnyvalevoices.org/. A showcase program was held to show the completed stories.

October 2000 and beyond

A project design manual was produced and made available on the web site. Project staff participated in the California Library Association annual conference in Santa Clara, CA as part of "Youth as Tech Leaders" on Sunday, November

12th, and "Local History in a Wired World" on Monday, November 13th. Plans to continue the project are being developed.

FUNDING

Grant Description

The Library Services and Technology Act (LSTA) is a part of the Museum Library Services Act of 1996. Administered by the Institute of Museum and Library Services at the federal level and the California State Library at the state level, the bulk of the funds are allocated to state library agencies to develop local library services and statewide library services, stimulate and promote resource sharing, encourage technological innovation, enhance electronic networking and linkages among libraries of all types, and improve services to the underserved or those persons whose needs are not met by traditional library service. For more information about LSTA grants and to download an application, visit http://www.library.ca.gov/html/lsta_app.html on the web.

Budget Allocations

Funding requirements for this project fell into four broad categories: salaries, operations, equipment, and in-kind contributions. Each category is discussed in detail below.

LSTA Salary Expenditures: $39,754

The salary figures include hours for the grant assistant, technical assistants, and regular staff librarians assigned to the project in order to accomplish the project objectives. The staff hired particularly for the project include the grant assistant and the technical assistants. As temporary grant assistants, those hired specifically for the project could not work more than 960 hours during the year, as specified by city regulations. The librarians have a 47.96% rate added within the salary figures since they were regular staff librarians, assigned additional hours for grant project work.

LSTA Operations Expenditures: $28,890

Three consultants were hired who had expertise in the areas of oral history, streaming media over the web, and video production. A graphic design artist was hired to create the Sunnyvale Voices logo. Equipment less than $5,000 per unit was also included in this budget. Examples of this type of equipment are microphones, headphones, two digital cameras, software programs, cables, adapters, a portable cassette recorder, etc. Postage and printing costs were incurred for flyers, invitations to participate in the project, storytelling materials, program publicity, and a manual at the end of the project. Some of the supplies we needed were videotapes, CD-ROMs, zip disks, mini-DV tapes, and office products.

LSTA Equipment Expenditures: $11,995

Two computer workstations with large monitors, a Jaz drive were budgeted, however, by project end, we had purchased four.

In-Kind Contributions: $264,250
Additional staff time for library administrators and other staff to promote the project and encourage the public to participate in the project came from the Sunnyvale library's operating budget. The library's collection of materials was used by trainers, project staff, and volunteers during all phases of the project. In-kind operation and equipment costs included supplies, other computers, copy machine use, and telecommunications.

Project budget totals: The total amount budgeted from LSTA funds was $95,395. Adding in-kind contributions of $264,250 gives a total project cost of $359,645.

Actual Expenditures
Total LSTA expenditures for the project were $80,641.07.

PERSONNEL REQUIREMENTS

The objectives for the project could not have been accomplished without the concerted effort of eleven team members. The staff were divided into the following three classifications: regular full-time city staff, temporary contract staff, and consultants. The regular full-time librarians included the Library Director, an Administrative Librarian, the Supervising Librarian for the Adult Services division, and a Reference Librarian from Adult Services who served as the Project Coordinator. The temporary contract staff included a grant assistant and three technical assistants. The job descriptions of the contract staff can be found below. There were three consultants who had specialties in oral history, video production, and streaming media over the World Wide Web.

The project coordinator required approximately 10-15 hours per week to work on the project. The grant assistant worked approximately 25-40 hours per week. The technical assistants each worked an average of 10-20 hours per week.

The project coordinator for this project was a regular full-time librarian. Careful thought should be given to making this assignment as the coordinator will likely need to be freed from his or her other activities, and it will have an impact on library staff. The significant advantage to having a full-time librarian work in this position, as opposed to hiring someone from the outside, is that the ties forged with the community through this project are maintained even if temporary personnel leave the project.

Job Descriptions - Grant and Technical Assistants

The grant assistant conducts oral history interviews with storytellers. He assists the storyteller in the composition of a 3-5 minute story, and helps identify the visual content (i.e., photographs, video, etc.) for the story. The assistant works closely with technical assistants to schedule the recording of the story and serves as an advisor to the technical assistants throughout the video production process. Required skills include the ability to work well as part of a team in a collaborative environment, strong organization, interpersonal, and communication skills, both oral and written, familiarity with the mission of the library, and an interest in local history. Preferred skills include experience conducting oral history interviews.

The technical assistants works closely with project team members to digitally record scripted and informal stories. Using Adobe Photoshop and Premiere, they edit the story to produce a 3-5 minute video. This video is then saved in multiple formats for a variety of distribution avenues, including video, CD-ROM, DVD, and the web. Additional responsibilities include the maintenance and updating of the project web site and assistance in developing a database of historical photographs. Required skills include production knowledge of Adobe Photoshop

and Adobe Premiere. Preferred skills include experience streaming digital videos over the Internet, knowledge of cataloging conventions for media content, and familiarity with asset management software.

Consultants

Three consultants contributed to the project. Elizabeth Wright, a professional oral historian with a private practice, advised us on storytelling techniques. She presented a lecture at a group orientation meeting during which she stressed the importance of their contributions to the project and advised them of the storytelling skills they would need in order to craft their story. Joshua Evenson, an experienced video producer, assisted us with the glitches we encountered with the first two computers we purchased. Brent Miller, a web server consultant, advised us on how to stream the completed stories over the web, and helped bridge the knowledge gap between the library and the city's Information Technology department.

If you are interested in contacting any of these consultants, please contact Steve Sloan at (408) 730-2768.

Recruitment

The regular full-time librarian who became the Project Coordinator worked closely with library staff to create job descriptions, disseminate the employment opportunity posting, and interview and hire candidates. The employment posting was distributed to local colleges and universities (English, Journalism, Library and Information Science, and Film/TV departments) and local historical organizations.

Training

The grant assistant attended an oral history weekend seminar early in the project. This training proved very useful as the project progressed because it exposed us to expert advice on the problems currently facing oral historians today. Training in oral history techniques is recommended for anyone who works with the project design, but particularly for those who interact and train the storytellers.

The project coordinator received training on how to use Adobe Photoshop. Although the coordinator rarely worked with Photoshop, the training was useful in terms of having an idea of what the various software packages were capable of. Of course, in the case of Photoshop and Premiere programs, they are capable of doing quite a lot! To become experts in these programs could literally take months - even years. A rudimentary understanding is, however, recommended for all project staff.

EQUIPMENT REQUIREMENTS

Having a basic understanding of the equipment and its function is vital to running a project such as Sunnyvale Voices. Digital Video is a complicated subject. You must have an understanding of what you are asking your computer to do in order to know what equipment will be required.

What is Digital Video? It is mostly an all-encompassing term meaning video being viewed or manipulated on a computer or sometimes simply video stored in a digital tape format. The video may have originally been analog source material digitized into a computer, or it may have been stored directly to a digital tape format.

Working with digital video on a computer requires a high-end system due to the amount of information that video requires. Even when working with compressed video, the average file size will be over 200 MB, and sometimes even surpass 1 GB. Capturing this amount of data in the first place is not possible without special hardware and software. A basic desktop computer cannot handle this amount of information.

To make desktop video editing possible you must look at many different aspects of the computer's operation. Processors are not as important as you might think. With speeds reaching over 800 Mhz the average processor will do the job, but the faster the better. You must have at least 256 MB of RAM (if not more) to effectively work with video on your computer. RAM is the memory that is available to the computer to run applications and the more memory your applications have to run on the smoother they will run. Video Editing programs working with video will need as much RAM as you can give them. For video capture and output to tape you must have the hardware and software to do it. There are a variety of video capture cards available. It is best to work with a capture card equipped with a Firewire connection. Firewire, also called IEEE-1394 is a communications protocol for high-speed, short-distance data transfer. It was originally developed by Apple Computer and they dubbed it "FireWire." 1394 is simply a digital data bus, and DV is only one kind of data that can be sent across it. Most video editing software, like Adobe Premiere, has the built-in feature to capture video through whatever hardware is available.

You will also need separate Hard Drives for your Operating System and your storage. This is due to the fact that your Operating system will constantly be competing with applications and video source information if it is stored on the same hard drive. If this is the case then you will experience lost frames during capture from video sources as well as glitches when outputting to tape. Furthermore, your storage drives should consist of a RAID array hard drive system. A RAID array hard drive is actually two hard drives linked to a Fast-track

controller and appearing as if they are one hard drive. In this system, each bit of information is broken up between the two drives for faster reading and writing. This is very important when capturing and exporting video.

For a detailed list of the hardware and software tools used in Sunnyvale Voices project, please refer to the Appendix. For more information about things to consider and questions to ask before purchasing equipment, please see Part Two: The Technical Guide.

COMMUNITY INVOLVEMENT

Community involvement throughout the project was instrumental in making the project a success. Participation manifested itself in a number of ways from beginning to end. At the library's 85th birthday celebration, many community members expressed a desire that the library would help record the memories of Sunnyvale residents before they relocated or passed away. In the preparation for this project, we discussed our ideas with the Digital Clubhouse and local historical groups.

After our proposal was selected to receive funds by the California State Library, a project advisory board was established in order to receive community input in a more formal manner. We met with local history groups again to help us recruit and identify potential storytellers. We also visited the local libraries and archives which owned historical photographs of Sunnyvale and sought permission to use them in our project.

Near the end of the project, we designed a couple of programs to showcase the completed stories. These events served as an effective method to gauge the work we had done thus far, and also to help us plan for the future. After each story was shown, people shared their reactions and often built upon the stories they had just seen with anecdotes of their own. Young and old, people learned from each other, and drew closer as a result of sharing memories of the place they live and work in. Many audience members helped us to identify future storytellers or subject areas in which we would want to be sure to have storyteller representation.

For more detailed information about community involvement, please see below:

Advisory Board

An advisory board was established which was comprised of members of the City of Sunnyvale's Community Development Department, the Cultural Heritage Commission, the Sunnyvale Historical Society, Orchard Heritage Park Interpretive Exhibit (OHPIE), the Digital Clubhouse, a local historian, and individuals from the community. It proved to be very difficult to get all of the advisory board members together at once. We therefore consulted with members in two separate meetings and by telephone. The difficulty in assembling all project advisors at once also caused us to alter our original plan of scheduling four advisory board meetings throughout the year. After the first two meetings were held, we adopted a more informal mechanism of receiving community input and guidance. As people learned of the project through word of mouth and meetings with the Library Board of Trustees and local history groups, many individuals provided valuable suggestions for both the storytelling and technical aspects of the project.

We still required expert advice, and we hired three separate consultants with expertise in oral history, video production, and streaming media over the World Wide Web to serve this purpose. More information about these consultants can be found in the Personnel section.

Local historical organizations

One of the most valuable resources to the project were the local historical organizations. These groups assisted by helping us refine our ideas, identify important historical periods, organizations, and personalities, create a list of potential storytellers, construct an historical image database, and publicize the project. We worked closely with the Sunnyvale Historical Society, De Anza College's California History Center, San Jose State University's Sourisseau Academy, and the City of Sunnyvale's Community Development Department and Cultural Heritage Commission.

Construction of an historical photograph archive

We have found that the best way to tell a story is with the photographs and video clips provided by the storyteller. However, it was frequently the case that either storytellers did not own very many photographs, or they just didn't have the photographs which would help tell the story they had chosen. Early in the project, therefore, we realized the utility of having an archive of historical photographs at our disposal.

The Sunnyvale Historical Society and the California History Center both maintain fine collections of photographs relating to Sunnyvale and the Santa Clara Valley. We obtained permission to make copies of nearly 500 photographs from these two collections. Because our purpose was to create digital videos, we scanned all of the photographs into the computer. In order to organize them, we created a Master Image Archive using Canto Cumulus software. Entering the descriptions of the photographs in Adobe Photoshop enabled us to create a searchable catalog of photographs in Cumulus. This database was an unanticipated consequence of the project, and we are excited about the possibilities of expanding this database, and possibly making it accessible via the library's web site, in the near future.

Identification and recruitment of storytellers

Without question, local history groups played a key role in helping us to identify and recruit storytellers. Our first storyteller was in fact a member of the Sunnyvale Historical Society and was present at the meeting where we first pitched the idea to them. These groups helped make sure that we did not miss anyone and that people from all walks of life were represented. In the case of orchards, for example, there are stories to be told from the perspective of the orchard farm owner, his or her children who helped out, the migrant workers

who picked the fruit, the businesses which supplied the orchard families with tools they needed, the canneries who bought from the orchards and processed their fruit, the city officials who oversaw the tracts of land and development, etc. Just as an author of a history book provides their unique perspective on events, the storytellers relate what's true and real for them.

Since the goal of this project is to record the memories of residents who lived and worked in Sunnyvale, we want to encourage the storytellers to share their unique perspective with us. However, we also want to be careful that the project is balanced with viewpoints from many different angles. Because we are painting a picture of life in Sunnyvale, it is better to paint a picture which was true for most of its residents rather than a small number of people. It's also useful to use the benefit of hindsight, and think about what early events or people significantly contributed to the development of the city as it is today. Telling the stories of the forces which helped to create our community helps us to understand who we are today and where we might be going in the future.

Publicity

The project proposal called for extensive promotion of this project in the community. Storytellers were to be recruited through newspaper advertising and radio advertising. This proved to be unnecessary, and indeed undesirable, as the project progressed. Through networking with local historical organizations, we rapidly created a potential storyteller list of about 75 individuals. Before we started to work with all of these people, we needed to test our processes and get a more concrete idea of how many individuals we could work with at one time. If we had advertised in the newspaper, we would likely have been overwhelmed with participants when we had little knowledge about what to do with them. At this early stage, then, it was prudent to limit publicity of the project to word of mouth and networking. Towards the end of the project, once our storytelling and technical processes had been verified and the distribution channels had been proven effective, it became desirable to promote the project on a much larger scale.

PROJECT PROCESS

Ideally, the production of one digital video requires about a month. We found, however, that this process can vary substantially based upon the availability of the storyteller. In a couple of cases, the process took less than a month, but most generally needed more than a month to complete their stories.

Preparation Time

The project did not meet the objective of recording twenty stories in its first year largely due to a delay in getting started and the significant amount of time required for set-up and troubleshooting technical difficulties. There were unforeseen personnel changes both within the library and also on the project advisory board which temporarily delayed the project. A timely beginning would have benefited the project by allowing us to complete the recording of 20 stories, however, the personnel changes could not have been anticipated. We also could not have anticipated the technical problems we experienced with the video production. It is therefore highly recommended that project staff begin as soon as possible on developing and testing the processes they choose to use in the project. Despite significant preparation and research time, there will surely always be unforeseen difficulties and obstacles you will have to face throughout the entire process.

In the Sunnyvale Voices project, the project progressed rapidly once the difficulties involving equipment and recording procedures were solved.

Storytellers

We created a list of potential storytellers through networking with community groups. For more information on recruitment, please see Identification and Recruitment of Storytellers. After the equipment had arrived and the project office had been set up, we began to work with the storytellers. As we prepared for the group orientation meeting, we contacted the storytellers on our list, informed them of the project, and invited them to participate. Keeping track of what was discussed during conversations with the storytellers is strongly recommended as it will serve to enhance your communication with them, particularly if there may potentially be long periods of no contact. Once the storyteller agreed to tell a story, they were invited to an orientation meeting.

Orientation Meeting

Thirteen people attended the first orientation meeting in March 2000. At the meeting, the project coordinator presented an overview of the project, the grant assistant explained some of the technical procedures and showed some video footage of what a story could look like, and finally, the oral historian presented key oral history principles for the group and helped explain the significance of their participation in this project.

Of course, not everyone could attend the group orientation meeting. So, using the handouts from the oral historian, we prepared a packet of information which would serve as an introduction to the project and help train the storytellers on the processes involved. After the group orientation meeting, these storytelling binders were given to individuals to help them prepare their story. Usually an appointment was made for the story development session at the time that the binder was given to the storyteller. To see the handouts in the storytelling binder, please see the Appendix.

Story Development Session

After the orientation, the project coordinator and/or the grant assistant met with each storyteller to help them develop their story. These sessions typically lasted about 1-2 hours. The storytellers brought their binders with them to this session. Included in the binder was a Sunnyvale history timeline, a questionnaire for the storytellers to fill out, and legal release forms. Two copies of the legal release were signed at this point, one given to project staff and the other for the storyteller's records. Using the questionnaire as a starting point for discussing their memories of experiences in Sunnyvale, we took careful notes as the storyteller reflected upon his or her life. In some cases, it was necessary to ask questions about certain key events or people in order to get the storytellers talking. In other cases, no prompting was necessary.

Some storytellers told of one or two experiences in great detail. Some others started in the mid-1800s and provided a chronicle of their family history since that time. But it was beginning with the story development session that the story really began to take shape. Based on what was said during the session, the project coordinator and/or grant assistant mentioned a few ideas which could be the subject(s) of the story. After discussion, the storyteller selected which topics he or she would develop in more detail. An outline of what was discussed at this session was given to the storyteller at the conclusion of this meeting or soon thereafter.

Also playing an important role at this stage is what visual elements will be used to tell the story. If a storyteller had a lot of photographs which visually depict what he or she is saying, we valued these segments slightly more highly than the others. The reason can be found in the video production process where a story which has photographs to support it becomes more eye-catching and therefore more interesting than those segments that do not have any photographs or video footage.

Draft Review

The storyteller wrote a script of 350-600 words in length (about one typed, single-spaced page). If the storyteller had access to a computer, we gave them

a disk so that they could give us the computer file. This meant that we did not have to retype the story later for the slide show portion of our web site. Once the script had been written, the storyteller gave us a copy. Project staff reviewed it, and if necessary, suggested revisions. The technical assistants were given a draft of the story at this point so that they could begin the process of locating photographs and video clips to help tell the story. After the script has been revised and accepted, a recording session was scheduled. In addition to making an appointment, we discussed where we would like to record the storyteller. If appropriate to the story, we preferred to shoot on location. If a location could not be found, we recorded inside the library or at the storyteller's residence. The most important consideration, however, was to be sure to get quality footage (a clear sound with minimal or no background noise, and a bright, focused image of the storyteller).

Recording Session

The project coordinator and/or the grant assistant scheduled a recording session with the storyteller. It proved useful to have two project staff members at this session, one technical assistant and either the project coordinator or the grant assistant. The technical assistant set up the equipment and made the recording while the other staff member worked with the storyteller and made an effort to put them at ease. For video production purposes, it was beneficial to have two takes of each paragraph. In between takes, we held up a white piece of paper and noted which paragraph and which take we were doing next. For example, we would say "Paragraph Two, Take Two." This helped later on in the video editing process. For more detailed technical information about the recording process, please see Part II: The Technical Guide.

Also at this time, we reviewed the next steps with the storyteller. We again discussed the visual images necessary to tell the story, and if necessary, made arrangements to scan or photograph the material.

Production

The technical assistants used Adobe Photoshop and Adobe Premiere software programs to produce the digital video. The main elements used were photographs, video footage - both the audio and video of the storyteller telling the story, and music soundtracks. Throughout production, the technical assistants communicated with the project coordinator and grant assistant in order to obtain any necessary historical photographs. After the video was complete, project staff reviewed it and verified the accuracy of the story. The introduction and credits were added to the story at this stage.

Post-Production

The storyteller was then invited to review their story. Thus far, all have been very pleased with the results. This is an opportunity, however, to make changes if they are necessary.

Distribution

A copy of the story was recorded on to video, cataloged (call number VC 979.473 S), and made available at the Sunnyvale Public Library. The story was also made available for viewing within the library on a stand-alone computer in the library's California Room as well as on the project's web site at http://sunnyvalevoices.org/. In addition, the story was recorded on to CD-ROM for archival purposes. For more information on the different file formats and technical considerations, please see Part Two: The Technical Guide.

PROJECT FINALE AND CONTINUATION

A showcase program of 5 completed stories was held in October 2000. Storytellers, project staff, and the community attended the event. The stories were very well-received, and there were many requests for similar programs in the future. We found that once they had seen the videos, the audience built upon the story that they had just seen with their own stories and recollections. People learned about Sunnyvale history while at the same time connecting with other community members.

Concurrent to the Sunnyvale Voices project, the city of Sunnyvale's Planning Department was working on the training of a volunteer group whose primary purpose is to record oral histories throughout the city. Project staff participated in the Planning Department's grant by assisting them with training, giving them an orientation to historical research materials at the library, and providing them with access to recording equipment. This volunteer group also received an introduction to the digital storytelling project, and has been asked to help promote our project by asking the oral history interviewees if they would be interested in contributing a shorter story in addition to their longer oral histories.

For many reasons, including the creation of this volunteer group which has now been trained to collect oral histories, the maintenance of a list of about 50 interested storytellers which we've gathered throughout the project, the successful development of both storytelling and technical processes, the existence of a fully-equipped project office, and the dedication of a trained, professional staff, we are making every effort to capitalize on the great interest in the community for preserving the history of Sunnyvale from first-hand accounts. The project will continue with library funds while we search for further grant opportunities. In this new effort, the library hopes to build upon the relationships with the community which were established during this project. If we can bring together the various organizations in the city that are interested in preserving and promoting Sunnyvale history, the work we do now will help to preserve the memories of yesterday for future generations.

In addition to this manual being made available online, it will be made available in print form on request. Project staff will also be discussing this project at the California Library Association's annual conference in November 2000.

SIGNIFICANT ACCOMPLISHMENTS

The goal of this project was to provide access to the oral histories of local residents through a variety of formats. Three objectives were developed to meet this goal. A list of accomplishments associated with each objective follows:

Objective #1 - Thirty people will be trained in digital and storytelling techniques.

- Thirty-seven people were trained in digital and storytelling techniques. Thirteen of these 37 were trained at a group orientation meeting, while the others were trained individually.
- With the input of a professional oral historian, a storytelling binder was created and developed to assist with the storytelling training.
- A project design and technical procedure manual was created to enable others to replicate the project procedures and training techniques.
- Through the training and recruitment of storytellers, the library worked closely with several local historical agencies and has thus reemphasized to the community that preserving local history is one of its important missions.
- As a result of the training in this project, project staff worked with an independent oral history group in the city to orient them to library resources which could assist them in conducting oral history interviews. The library will receive copies of these oral histories as they are completed and volunteers may provide assistance with the ongoing efforts of this project as well.
- Staff presented information about the project and recruited storytellers at several community events including the Library Board of Trustees meeting, the Sunnyvale Historical Society Board meeting, the Orchard Heritage Park groundbreaking ceremony, a program at the Sunnyvale Senior Center, and several other venues. The library staff also proved to be an invaluable resource as they connected us with potential storytellers, or even became storytellers themselves!

Objective #2 - Twenty stories will be recorded in the first year.

- We recorded 7 stories, and have another 6 nearly complete. There are approximately 10 additional storytellers which have begun the process of story development.
- By recording these stories, the library's role in providing access to the stories from early Sunnyvale history has been championed.
- Each storyteller received a copy of his/her story on videotape.
- As a result of collecting the photographs necessary to produce the stories, we are now maintaining a searchable database of historical Sunnyvale photographs.

Objective #3 - Completed stories will be made accessible through CD-ROM, video, and other methods.

- The stories are accessible in a variety of ways, including on the web (as a video or as a slide show presentation), on video (at the library), or on a computer designated for this project in our local history room.
- The stories are being stored in a variety of formats, including as computer files, on mini-DV tape, and on videotape. We are saving AVI, RP, and MPEG-2 versions of the computer files.
- A showcase program of 5 completed stories was held at the end of the project. Storytellers, project staff, and the community attended the event. The stories were very well-received, and there were many requests for similar programs in the future. We found that once they had seen the videos, the audience built upon the story that the they had just seen with their own stories and recollections. People learned about Sunnyvale history while at the same time connecting with other community members.
- The stories were shown at the World in Your City: International Street Faire in September 2000 to an audience of 40 people. The stories were also shown at a library staff meeting.
- A project web site (http://sunnyvalevoices.org/) was developed and will be maintained in the future.
- A technology carrel and computer were installed in the local history room in order to provide quality access to the stories within the library.
- Five copies of completed stories now circulate as part of the library collection, and are available for interlibrary loan purposes.
- We are now maintaining an office for the project which contains three video editing computers, a scanner, two digital cameras, and additional digital recording equipment. We will be using this office in the next few months to complete the stories which have begun the production process.
- The project design and technical procedures will be presented at a program entitled "Local History in a Wired World" at the California Library Association conference in November 2000. Since the technical assistants are young students from a local college, project staff will also participate in a program titled "Techs as Youth Leaders."

PART TWO: TECHNICAL GUIDE

PART TWO: TECHNICAL GUIDE

Introduction

The technical guide to the project includes the following components: a file format and digital standards discussion, technical considerations and questions to ask when buying equipment, and suggestions from a technical perspective on each of the various processes, including pre-production, production, post-production, and distribution.

It should be noted that both the techniques and equipment used in the Sunnyvale Voices project may be quickly superseded by new technologies. Before buying equipment, please be sure to research the latest developments through literature and the marketplace.

File Formats used in the project

Several different file formats were used in this project. Digital images were stored as TIFF files. Sound files were captured in Adobe Premiere as WAV files. Video files were rendered as AVI files before encoding as Realvideo or MPEG files, or with the proprietary Matrox compression format for transfer to Digital Video or VHS tape.

Digital Standards

An important consideration in this project was how to ensure that the stories we record today can be archived and easily retrieved in the future. Several helpful guides for standards in digitization projects are available from the following agencies:

California State Library - http://www.library.ca.gov/
California Digital Library - http://www.cdlib.org/
Library of Congress - http://www.loc.gov/
National Archives and Records Administration - http://www.nara.gov/

EQUIPMENT REQUIREMENTS

Hardware Tools

Video Editing Workstation

An appropriate digital video editing workstation is essential to the success of a project of this nature. Digital video and sound files are extremely large and require ample hard disk space and RAM. Of equal importance is the transferring of digital file in to, and out of the computer. This is accomplished through a *video capture* card working in conjunction with a RAID controlled hard disk array.

The video capture card and RAID array allows for the large digital video and sound files to be moved from the input source (the video camera) to the computer's hard disk in real time and back out again after editing. This specialized computer configuration creates the transfer rate necessary for the unbroken stream of data required in working with digital video.

At the project outset, after consultation with an advisory board, we purchased two Dell computer workstations. These computers, while technically equipped with a large amount of hard disk space and RAM, could not handle the data transfer from computer to tape. Whenever a transfer was attempted, the hard disk would run smoothly for about a minute before it needed to pause a moment to catch its breath. This pause resulted in lost data and frames being dropped from the videotape.

After consultation with a video production consultant, two video editing machines were purchased from a company that specialized in the configuration of digital video editing computers. Before deciding on this approach, we carefully considered all of the compatibility issues between these new computers and the equipment we already had.

Digital video camera

The camera selected for this project was purchased by the information contained in Consumer Reports magazine and the Zdnet (http://www.zdnet.com/) Buying Guides. Price comparison search engines like Killerapp (http://www.killerapp.com/) and PriceSCAN (http://www.pricescan.com/) were also useful.

Questions to ask:

1. What tape format will you use?
2. What is your budget?
3. What is the battery life?
4. Is the camera compatible with your image editing software programs and other devices?

5. Are there any special features you need like zoom, flash, etc.?

Digital still camera

The camera selected for this project was purchased by using the information contained in Consumer Reports magazine and the Zdnet (http://www.zdnet.com) Buying Guides. Price comparison search engines like Killerapp (http://www.killerapp.com/) and PriceSCAN (http://www.pricescan.com/) were also useful.

Questions to ask:

1. What is your budget?
2. How will the pictures be used? Will you need to print them, and if so, at what size?
3. What is the battery life?
4. Is the camera compatible with your image editing software programs and other devices?
5. Are there any special features you need like zoom, flash, etc?
6. How many pictures can you take with one memory card? What are the costs involved with additional cards?

Microphone

It is suggested that you purchase a separate clip-on lapel microphone to use when recording the storyteller. Using this microphone instead of the microphone on the camera will reduce the chance of background noise and enable a clean audio recording.

Questions to ask:

1. Does this microphone require phantom power?
2. Does my camera provide phantom power?
3. Does my camera have a high or low impedance connector?

Scanner

The scanner selected for this project was purchased by using the information contained in Consumer Reports magazine and the Zdnet (http://www.zdnet.com) Buying Guides. Price comparison search engines like Killerapp (http://www.killerapp.com/) and PriceSCAN (http://www.pricescan.com/) were also useful.

Questions to ask:

1. What is your budget?
2. What features matter most? Optical density? Resolution? Bit color?
3. What materials will you be scanning? Will you need to scan slides or negatives?
4. What is the size of the scanning area you will need?

5. Is it a SCSI connection? Or USB? (SCSI is recommended.)

Printer

Any compatible desktop printer should be adequate for incidental printing of labels, signs, and documents associated with the project.

TV/VCR

If you are planning to distribute VHS copies of the final product or if you hope to broadcast these videos on a local cable station, it is wise to invest in a fairly high quality VCR to produce the tapes. An S-VHS cassette recorder was used in this project and is recommended, but you should be aware that tapes recorded in S-VHS may only be played back on other S-VHS machines. The S-VHS cassette recorder we used gave us the option of recording in S-VHS or VHS. We therefore used S-VHS for the archival, high-quality copies, and used VHS tapes to give the storytellers a copy of their story and for circulation within the library.

A high quality TV is also recommended for viewing the final video product. If your equipment allows it, one may also view the video on the TV while you are still in the process of editing the video. If you are using an S-VHS cassette recorder, you will want to be sure to get a TV which accepts an S-video connection. S video connections between the TV and VCR preserve more of the quality of a recording than the usual RCA connectors.

Finally, consider the purchase of VHS dubbing deck for producing multiple copies of the completed stories.

Accessories

Tripod

Virtually all filming will be done using a tripod. Make sure to obtain a tripod that is relatively sturdy, lightweight, and pans easily in both vertical and horizontal directions.

Computer speakers

Computer speakers will be required to hear the audio portion of the projects when editing them on the computers.

Headphones

Headphones are used while filming to check the sound being recorded by the camera and in the editing process when working with sound or so as not to disturb others working nearby. Headphones are also used on the stand-alone computer located in the local history room which has been designated as a place to view these stories.

Software Tools

Image Editing
Adobe Photoshop is the preferred software for resizing, cropping, applying filters, saving in different formats etc.

Video Editing
The Sunnyvale Voices project used Adobe Premiere for all video editing.

Asset Management
Canto Cumulus asset management software was used for creating a searchable catalog of all of the scanned photographs in our digital image archive.

Web distribution
Real Player Producer Plus was used to encode video files to stream over the Internet. Adobe Acrobat was used to create a pdf of this document.

MPEG Conversion
Movie Pro Cleaner (MPEG conversion) was used to encode MPEG versions of the video files for in-library viewing on a stand alone computer.

Network Environment
If working with more than one computer, it is desirable to have file-sharing capabilities between computers. This will allow the transfer of image and video directly from hard disk to hard disk. The city's Information Technology department installed Novell Network software on the computers we used in this project.

Storage Media Devices

Mini-DV tapes
Mini-DV tapes were used in the digital video camera for initial shooting of video footage and then again to archive a digital version of the final cut.

VHS tapes
VHS tapes were used to circulate copies of the finished product at the Sunnyvale Library. These copies were also presented to storytellers so that they could keep a copy of their story.

S-VHS tapes
S-VHS tapes were used to produce high quality, archival copies of the stories. Eventually these may be used in cable broadcast as well.

CD-Rs (Rewritable CDs)
CD-Rs were used to save the project files which had been created during the video editing process. Once the story files had been removed from the hard disk, they could later be retrieved from the CD-Rs.

Jaz and/or Zip disks
Jaz and Zip disks were used as an alternate way of transferring files to off-site computers and for digitally archiving files.

STORY PRODUCTION PROCESS

Pre-production Process

While story development is taking place, there are many things that the technical staff can do to prepare for the production of the video segment. Completion of these tasks in advance will increase the amount of attention that can be focused on the content during production and will result in a higher quality finished product.

Scanning

As printed photographs and other artifacts are collected from storytellers and historical archives, the digitization process can begin. In addition, staff can begin shooting digital stock photos using the digital still camera. Developing a system to scan, organize and label images will aid in finding appropriate material for the stories. Using the digitization standards developed by the agencies previously mentioned, standards should be set for the actual scanning of images. Issues to consider include resolution, file format and file size. The Sunnyvale Voices project scanned images at 300dpi and saved them as TIFF images usually with dimensions of approximately 720 x 680 pixels. The average file size was 10 to 15 megabytes.

All scanning was done directly into Adobe Photoshop to allow manipulation of the image. Minimal cropping and level correction was also implemented at this point.

Archiving digital images

Depending on the total number of images to be collected, a classification scheme may need to be implemented. If the number of images is relatively small (less than 500), images may be labeled with sequential numbers.

Sunnyvale Voices used general categories based on the context of our historical project. Within the Master Image Archive folder were subfolders. Files were named using the following convention: First came the first three letters of the sub-folder name followed by an underscore; second came a four digit sequential number starting with “0001” followed by an underscore; and finally, the initials of the photographer or archive responsible for taking the picture. For example, the first photograph of a cherry orchard taken by Thuyen Vu and stored in a folder named “Cherry Orchard” would be named: CHE_0001_TV.tif.

This file name should also be written on the back of printed photographs with an archival quality pen to provide for easy retrieval later. If there are any notes on the back of the photographic print, these should be entered into the notes field

in Photoshop. Completing the notes fields allows for the creation of a searchable photograph database using Canto Cumulus software.

If the Master Image Archive is a folder with subfolders based on the subjects of the images, then the image catalog created with Canto Cumulus software contains surrogate records of each of these same images. In other words, when the photograph catalog is created in Cumulus using the photographs saved in Photoshop, Cumulus will preserve the hierarchy of the folders. This image catalog exists separately from the Master Image Archive and includes technical information about each image file, the notes from the image in a searchable field, and a thumbnail of the image itself displayed in a browsable viewer. The image catalog itself is created by dragging the Master Image Archive folder into Cumulus. The rest is done automatically by the software program. Other searchable fields may also be created once the catalog has been established. Some examples of these fields could include such things as decade, year, objects in the picture, or a description of an event.

Creating a stock introductory video segment

For the Sunnyvale Voices project, it was decided that we should have a uniform title sequence for the beginning of each video segment. This can be completed before filming begins, and gives the entire project a consistent look. If the project has a graphic logo it can be incorporated into this fifteen or twenty second segment.

Review of script/outline

Once a story script or outline has been developed, it should be reviewed by the production director. The director should consider how well the story will come across as a video. The director should also consider the availability of images to illustrate the narrative and how well the story flows throughout the entire narrative. Paying particularly close attention to the ending is recommended as we found it important to have a strong ending.

From the technical perspective, it is useful to have the story broken down into manageable sized paragraphs. This step is beneficial for the actual shooting of the “takes."

The story should be read out loud and timed to see if it falls into the range of length called for by the project’s goals. The Sunnyvale Voices segments were meant to be between three and five minutes in length.

Planning

As the filming session approaches, begin to think about which parts of the script will have images and which will feature the storyteller. With this in mind, planning should be done to ensure that the sections that feature the storyteller

are captured adequately. This will prevent footage where the storyteller is not looking up etc. (In sections where plenty of images are available, only the storyteller's voice will be heard and the video quality is unimportant.)

At this stage the director should also begin to formulate some impromptu interview questions. These spontaneous conversations that will be caught on camera may be edited into the story. These more natural exchanges provide a sense of humanity and liveliness to the final product.

Production Process

Recording session

Once the script has been finalized, a date can be set to record the story. The segment's director, camera operator and the storyteller will be present at this session. The approximate time required for a three to five minute story should be around two hours including set up and take down. During the shot, care should be taken to maintain friendly conversation with the storyteller in an effort to keep them as relaxed as possible throughout the filming session.

Setting up the shot

The selection of an interesting location will add to the interest of the shot. If possible, shoot at a location that has some significance to the story. However, there are also advantages to working indoors in a controlled environment. Often the storyteller will feel most comfortable someplace that is familiar to him or her. The Sunnyvale Voices project found that shooting in the storyteller's backyard or patio usually worked well. The storyteller should avoid wearing clothing with stripes or other fine patterns.

Lighting

Adequate lighting is essential for producing a digital video. When encoding video for streaming over the Web, this becomes especially important. Strong, even, lighting of the storyteller's face is desirable. Back lighting behind the head will add depth and definition. The camera's exposure adjustment should also be utilized, especially in significantly bright or dark settings.

Camera angle/framing

The camera should be set up on a tripod approximately ten to twelve feet from the storyteller. An effort should be made to frame the shot in a way that will be useable, without alteration, in the final product. It will be possible to crop and zoom during the editing process, however a loss of quality may occur. Using the camera's zoom feature, compose a tight shot of the storyteller's face. This will also reduce the chances of the script papers from which they are reading getting into the shot. The director should stand to the side or behind the camera and try to maintain eye contact with the storyteller during the filming.

Be sure that the electrical outlets you are using to supply power to the video equipment are grounded. If your electrical source isn't ground, this can produce static for sound and poor image quality.

Microphone check

The clip-on lapel microphone may be clipped anywhere on the storyteller's shirt or jacket, (close to the sternum works well.) A test should be conducted to make sure audio is being recorded. With the camera rolling, have the storyteller read the first paragraph, or say the alphabet. Headphones may be used to monitor the audio recording. If the camera has a speaker, it may be played back and listened to. If there is a way to control the recording levels, special attention should be given to not record at too high a level. This is especially important when working in digital sound. It is better to err on the side of softer sound as opposed to louder. Recording at too high a volume may lead to a metallic ringing sound in the final product.

Video check

It is a good practice to make sure that what is being shot is actually being recorded onto the mini-DV tape. Record some video and then rewind and playback to make sure video is being recorded.

Shooting the takes

After the shot has been composed and the equipment tested, it is time to begin shooting. Plan to do two takes of each paragraph. This should allow for the inevitable small mistakes. Let the storyteller know that if they feel they have made a larger mistake, it is ok to stop and begin the paragraph again. There is much cleanup that can be done in the editing process although it is still preferable to have it recorded as close to perfect as possible.

The director should keep the storyteller as relaxed and comfortable as possible while the camera operator handles the equipment.

Using a clap-board, or as we did, a homemade version using a pad of paper, the director should write 1/1 on the paper and hold it in front of the camera so that it can be read on film. If the storyteller is ready, the camera operator turns on the camera, the directors says out loud, "paragraph one, take one" and the storyteller reads the first paragraph.

Try to encourage the storyteller to look up as much as possible, especially if there are sections in which there will be few images used.

Repeat each paragraph

The process should then be repeated exactly as before except that the paper should say 1/2 and the director will say, “Paragraph 1, take two.” After two takes have been completed of the first paragraph, go on to the second paragraph, and so on.

Keep the camera rolling

After all the takes for the entire script are done, keep the camera rolling. This is the time for the director to ask impromptu interview questions. Often the storyteller will volunteer information that they have remembered. This spontaneous dialog may be very useful when creating the final product.

Post-Production Process

Once the story has been recorded, it is time to begin the post-production process. This includes transferring the video files to your digital video-editing computer, assembling the master audio/video track from the takes recorded, adding in images and sound. Finally the edited digital file is exported out to tape and encoded for streaming over the Internet.

Video capture

The transfer of the video from the camera into the computer is accomplished by connecting the camera to the computer’s capture card. See the documentation for each particular video card for help on this. Generally, each take is saved as a separate file. Naming the files “p1t1”, “p1t2” etc. helps to identify the clips.

Editing the clips

The first step in the editing process is to piece together the video/audio clips into one continuous flow. This is done using Adobe Premiere or other video editing software. Decisions are made as to the best takes to use and editing of unusable portions is also done at this time.

Adding images

The digital images to be used in the segment should be copied on to the computer where the editing is being done and imported intothe video-editing project. Images are then placed into the project at appropriate spots and “stretched” to the desired duration. These images will override the video but the audio of the Storyteller’s voice will remain.

Adding effects

Once the images have been placed, transitions and filters may be added. See the software’s documentation for further explanation on this. If video files will be eventually streamed over the Web, it is wise to use panning, zooming and transitions sparingly as they add substantially to the complexity of the digital file.

Adding music

Music may be added to the video on a separate track from the storyteller's voice track. This can help to add feeling to the story and demarcate sections. Music (or other sound files) should be imported as WAV files. These can be faded in and out as desired.

Adding introductory video segment

The stock introductory video segment can be imported and pasted directly into the project.

Credits

Credits can be created in Adobe Premiere or in Adobe Photoshop and brought in as images. Have fun with these, don't forget to give the storyteller, the photo archives, yourself, and most of all the Library Director lots of credit!

Distribution Process

Exporting the movie to video tape

The completed digital video file can be exported back out through the capture card to print to digital video or VHS tape. There are multiple settings that need to be configured during this process. The video file will be compressed using one of a number of compression formats before printing to video. Consult the video editing software and capture card documentation for more information on this step.

Exporting the movie to stream on the web

If the video is being prepared to stream over the web, the settings used during the export may be altered. Dimensions of the final product are reduced and no compression is used. It is a good idea to try different settings to find out what works best.

Once the video file has been exported from the video editing software, it is encoded using specialized compression software. The Sunnyvale Voices project used RealProducer from RealNetworks. Again there are many settings to be configured to achieve a smoothly streaming video over a range of connection speeds.

These finished files are then transferred to a Web server that is running the streaming software. In our project, RealServer was used. The files are linked to a Web page and viewed through Netscape, Internet Explorer or other browser.

Archival copy
The completed story file, along with the images and video clips used in the segment may be archived on rewritable CDs. This is useful if it becomes necessary to rebuild a segment after the project has been moved off the video editing computer. The three to five projects took up about 10 gigabytes of hard drive space each!

The final cut of the video segment should be archived on analog VHS or S-VHS tape and on Mini-DV digital format. This is to guard against possible media deterioration and obsolescence of formats.

GLOSSARY OF TERMS

The following definitions came from the Tech Encyclopedia, viewable online at http://www.techweb.com/encyclopedia/.

AVI file - stands for Audio Video Interleaved. It is a Windows multimedia video format from Microsoft. It interleaves standard waveform audio and digital video frames to provide reduced animation.

dpi - stands for Dots Per Inch. This is the measurement of the resolution of display and printing systems.

MPEG - stands for Moving Pictures Experts Group. The MPEG is a lossy compression method, which means that some of the original image is lost during the compression stage, which cannot be recreated. MPEG-1 is used with CD-ROMs and Video CDs. MPEG-2 is used with HDTV and DVDs. MPEG-4 is the next generation being developed today.

TIFF - stands for Tagged Image File Format. It is a widely-used bitmapped graphics file format developed by Aldus and Microsoft that handles monochrome, gray scale, 8- and 24-bit color.

Video capture card - Digitizes full-motion video from a VCR, camera or other video source.

WAV file - the native digital audio format used in Windows. WAV files use the .wav extension and allow different sound qualities to be recorded. Either 8-bit or 16-bit samples can be taken.

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APPENDIX:

Equipment List

Storytelling Binder

Equipment List

(2) Video Editing Stations

Core Micro Systems Workstations
800 Mhz Pentium III Processor
256 MB RAM
10 GB Hard Drive for the Operating System (Windows 98)
60 GB RAID Hard Drive Array with a FastTrack 100 Ultra ATA/100 RAID Card
Matrox RT2000 Video Capture Cards
Creative Sound Blaster Live Card
Network Card
SCSI Card
CD-R Burner
Zip Drive 250
21” Monitor
Speakers

Dell Computer - Scanning Historical Photographs

600 Mhz Pentium III Processor
256 MB RAM
27 GB Hard Drive
15” Monitor
Wacom Tablet
Microtec ScanMaker 6400XL Scanner
CD-ROM
DVD-ROM
HP Deskjet 970 Cse Printer

Dell Computer - California History Room

600 Mhz Pentium III Processor
256 MB RAM
27 GB Hard Drive
19” Monitor
CD-ROM
DVD-ROM

Recording Equipment

Production Use:

Sony Mini-DV Camera DCR-TRV10
Standard Tripod
BeachTech DXA-4 Mic Adapter
Clip-on-Mic
Rolls Phantom Power Adapter PB23
Rolls Dual Phantom Power Adapter Plus PB224
Standard 100 High Clarity Flexible Microphone Cable by Monster Cable
Panasonic Stereo Headphones RP-HT355
Panasonic Mini DV Cassette AY-DVM63EB

Post-Production Use:

Sony DRV-100 DV Drive
S-VHS VCR
VCR Dubbing Deck
27" TV
Memorex 700MB/ 80 Min. CD-R
Sony T-120 VHS High Grade Video Tapes

Software:

Adobe Premiere 5.0
Adobe Photoshop 5.5
Real Producer Plus
Cumulus
Sound Forge

Storytelling Binder Materials